



Atty. Dkt. No. 083847-0231

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Hua Zhang et al.

Title: Fabrication of Solid-State Nanostructures Including sub-50 NM
Solid-State Nanostructures Based on Nanolithography and
Chemical Etching

Appl. No.: 10/725,939

Filing Date: 12/3/2003

Examiner: Unassigned

Art Unit: 1762

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §1.56

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56. A copy of each listed document, except as noted below, is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The USPTO has waived the requirement under 37 CFR 1.98(a)(2)(i) to submit copies of U.S. patents and U.S. patent application publications when citing and submitting an Information Disclosure Statements in a patent application filed after June 30, 2003 and in an international application that has entered the national stage under 37 USC §371 after June 30, 2003. Accordingly, copies of these types of documents are not being supplied in connection with this application. Reference is being made to OG Notice dated August 5, 2003, *Information Disclosure Statements May Be Filed Without Copies of U.S. Patents and Published Applications in Patent Applications filed after June 30, 2003*.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do

not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is determined to be a *prima facie* art reference against the claims of the present application.

TIMING OF THE DISCLOSURE

The listed documents are being submitted in compliance with 37 CFR §1.97(b), before the mailing date of the first Office Action on the merits.

RELEVANCE OF EACH DOCUMENT

All of the documents are in English.

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Respectfully submitted,

Date

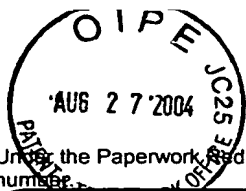
August 27, 2004

By

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT Date Submitted: August 27, 2004 <i>(use as many sheets as necessary)</i>		Complete if Known	
		Application Number	10/725,939
Sheet	1	of	5
		Filing Date	12/03/2003
		First Named Inventor	Hua Zhang
		Group Art Unit	1762
		Examiner Name	Unassigned
		Attorney Docket Number	083847-0231

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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FOREIGN PATENT DOCUMENTS

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NON PATENT LITERATURE DOCUMENTS

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	A1	AGARWAL, G., et al, "Dip Pen Nanolithography In Tapping Mode", J. Am. Chem. Soc. vol. 125, pp. 7408-7412 (2003).	
	A2	AGARWAL, G., et al, "Immobilization of Histidine-Tagged Proteins on Nickel by Electrochemical Dip Pen Nanolithography", J. Am. Chem. Soc. vol. 125, pp. 580-583 (2003).	
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	A5	BEHL, M., et al., "Towards Plastic Electronics: Patterning Semiconducting Polymers by Nanoimprint Lithography", Adv. Mater, vol. 14, no. 8, p. 588 (2002)	
	A6	BOGOZI, A., et al., "Molecular Adsorption onto Metallic Quantum Wires", J. Am. Chem. Soc., vol. 123, pp. 4585-4590 (2001).	
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	A8	BRAUN, E., et al., "DNA-templated assembly and electrode attachment of a conducting silver wire", NATURE, vol. 391 p. 775 (1998).	
	A9	CAO, Y., et al., "DNA-Modified Core-Shell Ag/Au Nanoparticles", J. Am. Chem. Soc., vol. 123, pp. 7961-7962 (2001).	
	A10	CAO, Y., et al., "Nanoparticles with Raman Spectroscopic Fingerprints for DNA and RNA Detection", Science, vol. 297, pp. 1536 (2002).	

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	A11	CARVALHO, A., et al., "Self-Assembled Monolayers of Eicosanethiol on Palladium and Their Use in Microcontact Printing", <i>Langmuir</i> , vol. 18, pp. 2406-2412 (2002).	
	A12	CHEN, J., et al., "Large On-Off Ratios and Negative Differential Resistance in a Molecular Electronic Device", <i>Science</i> , vol. 286, p. 1550 (1999)	
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	A17	DONHAUSER, Z. J., et al., "Conductance Switching in Single Molecules Through Conformational Changes", <i>Science</i> , vol. 292 p. 2303 (2001).	
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	A23	HAES, A. J., et al., "ANanoscale Optical Biosensor: Sensitivity and Selectivity of an Approach Based on the Localized Surface Plasmon Resonance Spectroscopy of Triangular Silver Nanoparticles", <i>J. Am. Chem. Soc.</i> , vol. 124, pp. 10596-10604 (2002).	
	A24	HAYNES, C. L., et al., "Nanosphere Lithography: A Versatile Nanofabrication Tool for Studies of Size-Dependent Nanoparticle Optics", <i>J. Phys. Chem. B</i> , vol. 105, pp. 5599-5611 (2001).	
	A25	HE., H. X., et al., "Electrochemical Fabrication of atomically thin metallic wire and electrodes separated with molecular-scale gaps", <i>J. of Elec. Chem.</i> , vol. 522 pp. 167-172 (2002).	
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	A27	HE, H. et al., "A Conducting Polymer Nanojunction Switch", <i>J. Am. Chem. Soc.</i> , vol. 123, p. 7730-7731 (2001).	
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	A31	HONG, S. et al., "A New Tool for Studying the in Situ Growth Processes for Self-Assembled Monolayers under Ambient Conditions", <i>Langmuir</i> , vol. 15, p. 7897-7900 (1999).	
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	A40	KUMAR, A., et al., "Patterning Self-Assembled Monolayers: Applications in Materials Science", <i>Langmuir</i> , vol. 10, pp. 1498-1511 (1994).	
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	A42	LAIBINIS, P., et al., "Comparison of the Structures and Wetting Properties of Self-Assembled Monolayers of n-Alkanethiols on the Coinage Metal Surfaces, Cu, Ag, Au", <i>J. Am. Chem. Soc.</i> , vol. 113, pp. 7152-7167 (1991).	
	A43	LEE, K., et al., "Protein Nanostructures Formed via Direct-Write Dip-Pen Nanolithography", <i>J. Am. Chem. Soc.</i> , vol. 125, pp. 5588-5589 (2003).	
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	A45	LI, X., et al., "Sulfonic Acid-Functionalized Gold Nanoparticles: A Colloid-Bound Catalyst for Soft Lithographic Application on Self-Assembled Monolayers", <i>J. Am. Chem. Soc.</i> , vol. 125, p. 4279-4284 (2003).	
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	A50	LIU, G., et al., "Nanofabrication of Self-Assembled Monolayers Using Scanning Probe Lithography", <i>Acc. Chem. Res.</i> Vol. 33, pp. 457-466 (2000).	

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	A51	LOVE, J. C., et al., "Self-Assembled Monolayers of Alkanethiolates on Palladium Are Good Etch Resists", J. Am. Chem. Soc., vol. 124, no. 8, p. 1576 (2002).	
	A52	LOVE, J. C., et al., "Formation and Structure of Self-Assembled Monolayers of Alkanethiolates of Palladium", J. Am. Chem. Soc., vol. 125, pp. 2597-2609 (2003).	
	A53	MALINSKY, M. D., et al., "Chain Length Dependence and Sensing Capabilities of the Localized Surface Plasmon Resonance of Silver Nanoparticles Chemically Modified with Alkanethiol Self-Assembled Monolayers", J. Am. Chem. Soc., vol. 123, pp. 1471-1482 (2001).	
	A54	MAYNOR, B. W., et al., "Direct-Writing of Polymer Nanostructures: Poly(thiophene) Nanowires on Semiconducting and Insulating Surfaces", J. Am. Chem. Soc., vol. 124, no. 4, p. 522 (2002).	
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	A60	NAM, J., et al., "Bio-Barcodes Based on Oligonucleotide-Modified Nanoparticles", J. Am. Chem. Soc., vol. 124, pp. 3820-3821 (2002).	
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	A69	SU, M., et al., "Moving beyond Molecules: Patterning Solid-State Features via Dip-Pen Nanolithography with Sol-Based Inks", J. Am. Chem. Soc., vol. 124, no. p. 1560 (2002).	
	A70	TARLOW, M. J., et al., "UV Photopatterning of Alkanethiolate Monolayers Self-Assembled on Gold and Silver", J. Am. Chem. Soc., vol. 115, p. 5305 (1993).	
	A71	TATON, T. A., et al., "Scanometric DNA Array Detection with Nanoparticle Probes", <i>Science</i> , vol. 289, p. 1757 (2000).	

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